# E-EGS09 ASTER SCIENCE OPERATIONS CONFIDENCE TEST


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# Table of Contents for Test Cases



**NOTES:**
**Changes added this update include "Table of Contents", added section numbers, updated document to include updates to 611-CD-004-002.**

**ASTER Science Operations Confidence Test - E-EGS09**

## 1.0 Overview

The end-to-end ASTER Science Operations Confidence test (E-EGS09) is one of the EGS System level tests that will be performed at the EDC DAAC. E-EGS09 will test the ASTER scenarios at the EDC DAAC and with inputs from ASTER GDS. It will demonstrate the readiness of the DAAC to ingest, archive, generate higher level products and distribute the Level 1a and 1b and higher science data products. The receiving and testing of the Science Data Package for processing the Level 1a and 1b products to higher level products will be accomplished in ICT01. The intent is to verify that the individual subsystems at the DAAC interface with each other and with the data sources and destinations of the data products well and, assess how well the DAAC functions, as a whole, meet the requirements of the science community as defined in the F&PRS document and the Interface Control Document Between EOSDIS Core System (ECS) and Aster Ground Data System..

The scope of this test can be listed as,

- Conducted at the EDC DAAC with participation of other DAACs and ASTER GDS as required by the daily operations of the DAAC.
- These tests will focus on instrument threads beginning at the ingest stage and ending with the science users accessing the Level 1a and 1b and higher products using the V0 B0SOT (or available) client interface.
- The tests will focus on functional capabilities. Performance will be addressed by a separate set of tests called EGS11.
- A representative set of scenarios, PGEs and associated ESDTs and data will be chosen for the tests in consultation with the EDC DAAC and instrument teams. (The representative set should exercise all functions and interfaces. It may not be possible to test all scheduled products.)
- The tests will generate and submit a DAR. Status of the DAR and extraction of the data set and sending the data to the user will be exercised.

Some of the assumptions are:

- The interfaces between the EDC DAAC and other elements of the EGS such as ASTER GDS and other DAACs are fully operational as per EOSDIS requirements.
- The EDC DAAC is configured as per requirement and each element of the ECS DAAC has been tested for functionality and is operating properly. Stated explicitly, the interface tests E-ICT1, E-ICT12, and the SV/AT tests should have been completed before E-EGS09 is exercised.
- The Product Generation Executives (PGEs) required to produce the Level 2 and higher level products for the ASTER instrument should be available and integrated into the DAAC configurations, although these are not required for the Launch Critical Scenarios.
- Science data granules (from the instruments, where possible, or simulated) and other suitable data are available for the test.
- The ESDTs required for these tests are defined and available in the system.
- The instrument teams and the DAAC will help in selecting candidate data sets, ESDTs, and PGEs that are to be used during this test, as well as take active part during the test.

- EBnet and NSI connections to the DAAC has been qualified to EGS requirements.

The tests which have to pass before E-EGS09 is started are:

1. ECS SDP - SCF Interface Confidence Test (ICT1).
2. ECS - ASTER GDS Interface Confidence Test (ICT12)

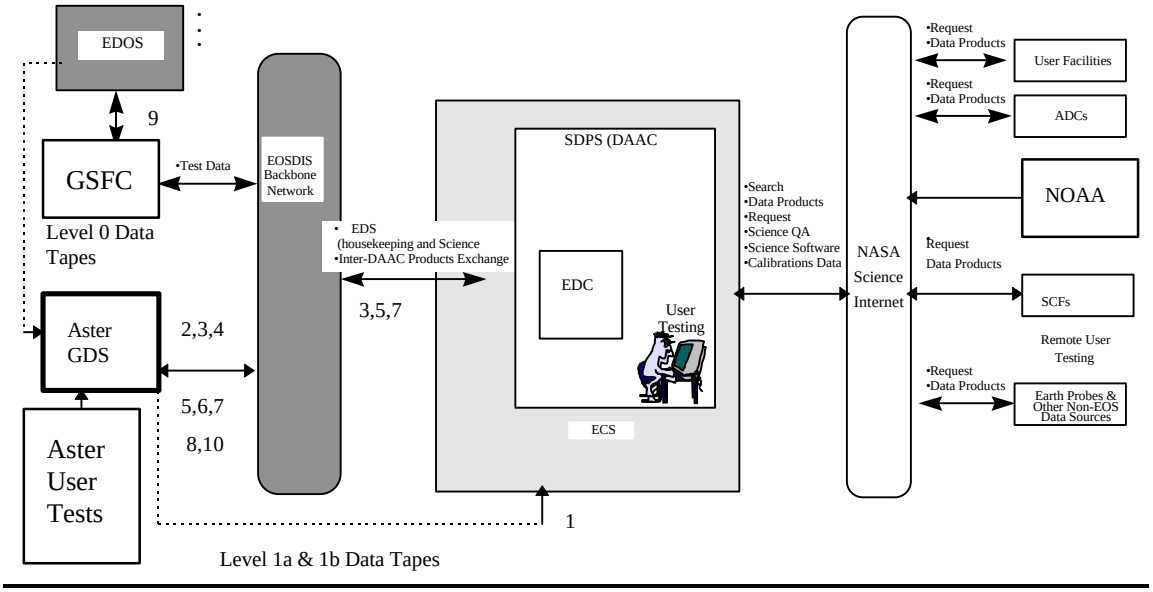


**Exhibit E-EGS09-1 ECS/ASTER System Test Diagram**

| Source | Destination | System Interface Data Flows | Number[1] |
|---|---|---|---|
| ASTER GDS | EDC | Level 1A Product File<br>Level 1B Product File<br>Metadata Files<br>Browse | 1 |
| ASTER GDS | EDC | Data Shipping Notice | 2 |
| ECS Users Interoperability | ASTER GDS | Directory, Inventory search.<br>Browse and product requests.<br>Product Status<br>Product Cancel<br>Pricing | 3 |
| ASTER GDS Users | EDC | Directory, Inventory search.<br>Browse and product requests.<br>Product Status | 4 |

| Source | Destination | System Interface Data Flows | Number[1] |
|---|---|---|---|
| | | Product Cancel<br>Pricing | |
| EDC | ASTER GDS | System and Network Management | 5 |
| ASTER GDS | EDC | System and Network Management | 6 |
| ECS | ASTER GDS | DAR Search, Request, Status | 7 |
| ASTER GDS | EDC | DAR Search, Request, Status | 8 |
| EDOS | GSFC | ASTER EDSs | 9 |

1. System Interface data flows are keyed to Exhibit E-EGS09-1.

## Exhibit E-EGS09-2 ECS/ASTER System Science Interfaces

### 1.1 Test Objectives:

- Process L1a/b (or applicable ) data for the Aster instrument **separately** to generate archive Level 2- and higher products, and access/distribute Level 1a and 1b - and higher products.
- Process L1a/b (or applicable) data for the Aster instrument **concurrently** to generate, archive Level 2- and higher products, and access/distribute Level 1a and 1b and higher level products.
- The ability to submit a DAR and monitor the status of said DAR.

### 1.2 Test Configuration:

Hardware and software configurations at the ASTER GDS, each ECS site, are managed and tracked by the M&O organization at that site. The most current configuration status report will be obtained prior to the start of testing and be referenced in the test report. Exhibit E-EGS09-1 depicts the test configuration. Exhibit E-EGS09-1 provides an idea of the configuration and data flow for this test.

### 1.3 Processes to be Verified:

- Media ingest and archival of ASTER Level 1a and 1b data from ASTER GDS.
- On demand processing of ASTER Level 1a and !b data to higher level products.
- Concurrent execution of many PGEs.
- Chaining of PGEs where the completion of one will lead to the start of another.
- Archival of higher level products and associated metadata.
- User access to the archives (directory, guide and inventory searches, accessing browse products, specify exactly which data is desired, place orders for data. User access is required for testing which includes ECS to ASTER inventory and ASTER to ECS inventory.
- Processing of Level 0 data to Level 1a and 1B data products.
- Ingest of ancillary data.

## 1.4 Participants and Support requirements:

- DAAC personnel (details TBD)
- EDOS support for L0 and Ancillary Data.
- EBnet support for data transfer.
- NASA Science Internet support for science user interface (requests, data products).

## 1.5 Equipment and Software:

TBD

## 1.6 Test Tools:

TBD

## 1.7 Test Data:

- ASTER Level 0 PDS data (Tapes from EDOS)
- ASTER Level 0 Expedited Data Sets (EDSs)
- ASTER Level 1A and 1B Data Sets (Tapes)
- ECS Valids Database
- ASTER GDS Valids Database

## 2.0 E-EGS09.1 Scenario 1 – E-LC-8, Ingest and Archive of ASTER GDS L1a/1b Post Launch Checkout Data and E-LE-1, Full Daily Ingest of ASTER L1a/L1b via D3 Tape

This scenario exercises the EDAAC ECS ability to ingest and archive ASTER data provided by ASTER GDS via a D3 tape containing one days worth of data.

### 2.0.1 Requirements To Be Verified Either in full or portions:

ASTER-0110, ASTER-0700, ASTER-0730, DADS0200#B, SDPS0025#B

### 2.0.2 Test Objectives:

- Ingest and Process L1a/1b (or applicable ) data for the Aster instrument **separately** to generate an archive, and access/distribute Level 1a and 1b - and higher products.
- Check the ingest tapes for DAR files and if detected process the DAR and distribute to requester.

### 2.0.3 Expected Test Results:

- The ability to successfully ingest and archive the D3 data tapes containing Level 1a and 1b ASTER data.
- The ability to successfully ingest and distribute DAR files to the requester.

### 2.0.4 Methods for Results Analysis:

- View Ingest History Log to determine that the files have been successfully archived.
- View Distribution Log to determine that the DAR file has been correctly delivered.

### 2.0.5 General Test Flow Sequence:

**1. ASTER Ingest and Archive**

- 611-CD-004-002 reference. The following procedures describe the operations for running the various steps necessary during operations.
    - ECS Ingest tool, Section 16.2
        - Starting the Ingest GUI, Section 16.2.1
        - View the Ingest History Log, Section 16.2.2
        - Ingest History Log reports, Section 16.2.3
        - Ingest Monitor/Control, Section 16.2.4
        - Ingest Operator Tools, Section 16.2.5
        - ASTER D3 Tape Ingest, Section 16.2.6.3
        - View Ingest History Log, Section 16.2.2, to verify that the files have been successfully archived.

## 2.1 E-EGS09-2 Scenario 2 - E-LC-9, Full ASTER SSI&T and E-LC-12, Addition/Modification, and Search, and Distribution of a ESDT

This scenario exercises: 1) the delivery and use of science algorithms/software; 2) delivery, inspection and infusion testing of ASTER PGEs and associated test data; 3) integration testing of ASTER V2 PGEs to include chaining for higher level products; 4) commissioning of the ASTER V2 PGEs into operations using actual ASTER data from EOS AM-1; and 5) support PGE changes and modifications to include testing, insertion and production monitoring; 6) NOAA ancillary data access; 7) DEM ingest. This scenario also exercises: 1) the creation of a new system ESDT; 2) the creation of a new science product ESDT; 3) the evaluation of proposed ESDTs using EDAAC ECS test mode; 4) the commission of new ESDTs into operations; 5) search of all ESDT data types in EDAAC ECS using the ECS Client; 6) order of a sample of each ESDT using the Client; 7) distribution of samples via pull ftp, push ftp, and 8 mm tape; and 8) inspection of samples using Client and other HDF inspection tools.

### 2.1.1 Requirements To Be Verified Either in full or portions:

- ASTER-0020, DADS0200#B, EOSD1770#B

### 2.1.2 Test Objectives:

- To verify the ability to ingest PGEs into the system from the SCFs.
- To verify the ability to check that the code shipped is compatible with the EDAAC system.
- To verify the ability to chain PGEs.
- To verify the ability to commission the PGEs into operations using actual ASTER data.
- To verify the ability support PGE changes and modifications.
- To verify the ability to create a new ESDT.
- To verify the ability to evaluate proposed ESDTs using the test mode.
- To verify the ability to search ESDT data types using the ECS Client.
- To verify the ability to order a sample of each ESDT using the Client
- To verify the ability to distribute samples.

### 2.1.3 Expected Test Results:

- TBD

### 2.1.4 Methods for Results Analysis:

- TBD

### 2.1.5 General Test Flow Sequence:

611-CD-004-002 Reference. The following procedures describe the operations for running the various steps necessary during operations. The SSI&T process consist of two phases:

- **Pre-SSI&T phase –** During this phase the Delivered Algorithm Package (DAP) is inspected, and tested in a non-production environment.
- **Formal SSI&T phase –** During this phase, the Product Generation Executives (PGEs) are integrated with the DAAC version of the SDP Toolkit and executed on the ECS PDPS platform.

**Pre SSI&T Phase**

1. Acquire the DAP - This is performed by electronic (FTP) transfer or by hard media. **(See Section 11.5.1 of 611-CD-004-002 for details)**
2. Unpack and inspect the DAP - The DAP contents are checked by the Science Data Specialist to verify that the contents match the packing list, agreed-upon directory structures are employed, location of files are correct, and all intended files and directories are present. **(See Section 11.5.2 of 611-CD-004-002 for details)**
3. The Science Data Specialist reviews the delivered documentation.
4. The Science Data Specialist requests that the CM Administrator place the DAP under Configuration Management control using ClearCase. **(See Section 11.6 of 611-CD-004-002 for details)**
5. The SSI&T team checks the science software for standards compliance using the Process Control File Checker to check process control files, and the Prohibited Function Checker to check source files. **(See Section 11.8 of 611-CD-004-002 for details)**
6. The SSI&T team builds the science software into PGEs using the WSCF version of the SDP Toolkit. Compile all source code. Link object code with appropriate libraries. **(See Section 11.9 of 611-CD-004-002 for details)**
7. The SSI&T team runs the PGEs from the UNIX command line on the SGI. **(See Section 11.10 of 611-CD-004-002 for details)**
8. The SSI&T team collects performance statistics for the PGEs. **(See Section 11.11 of 611-CD-004-002 for details)**
9. The SSI&T team examines the output log files from the PGE runs for any anomalous message.
10. The SSI&T team compares the output data with the delivered test data using the file comparison tools. **(See Section 11.11 of 611-CD-004-002 for details)**
11. SSI&T team reports any science software problems using the DDTS NCR process.
12. The SSI&T team reports any ECS problems using the DDTS NCR process.
13. The SSI&T team collects and logs all lessons learned.

**Formal SSI&T Phase**

1. Register ESDTs on the Science Data Server. Registration links the PGE to all input and output ESDTs, which allows the PGE to run within the PDPS. **(See Section 11.3 of 611-CD-004-002 for details)**
2. Register the PGEs with associated data in the PDPS database. **(See Section 11.12.1 thru 11.12.6 of 611-CD-004-002 for details)**
3. Insert input test data and static files on the Data Server. **(See Section 11.12.7 thru 11.12.9 of 611-CD-004-002 for details)**
4. Build the science software into PGEs with the DAAC version of the SDP Toolkit. **(See Section 11.12.10 thru 11.12.13 of 611-CD-004-002 for details)**

5. Register subscriptions for the input and output data for the PGE. **(See Section 11.13.1 of 611-CD-004-002 for details)**
6. Using the Production Request Editor, submit an individual Production Request that results in the PGE being run once. **(See Section 11.13.2 of 611-CD-004-002 for details)**
7. Using the Planning Workbench, plan, schedule and activate the production request. **(See Section 11.13.4 of 611-CD-004-002 for details)**
8. Monitor the PGE run using AutoSys. **(See Section 11.13.5 of 611-CD-004-002 for details)**
9. Examine the output Production History File from the PGE runs for any anomalous messages. **(See Section 11.13.6 of 611-CD-004-002 for details)**
10. Compare the output product data with the delivered test data using the file comparison tools. **(See Section 11.14.1 of 611-CD-004-002 for details)**
11. Using the Planning subsystem, initiate more complex Production Requests. **(Rerun Section 11.13 of 611-CD-004-002 for more complex Production Requests)**
12. Acquire and examine the output products generated by the PGEs.
13. Using electronic or hard media transfer methods, distribute the data products to the Instrument Team for their review.

## 2.2 E-EGS09.3 Scenario 3 - E-LC-14, Distribution of ASTER L1a/1b to ITs

This scenario exercises the capability of EDAAC ECS to distribute data via FTP and 8mm tapes.

### 2.2.1 Requirements To Be Verified Either in full or portions:

- ASTER-0905, EOSD1770#B

### 2.2.2 Test Objectives:

- TBD

### 2.2.3 Expected Test Results:

- TBD

### 2.2.4 Methods for Results Analysis:

- TBD

### 2.2.5 General Test Flow Sequence:

**Data Distribution**

- 611 -CD -004-002 reference. The following procedures describe the operations for running the various steps necessary during operations.
    - ECS Data Distribution Operator Tool
        - Start the Data Distribution Operator GUI, Section 18.2.1
        - Monitoring Requests, Section 18.2.2
        - Configure Data Distribution Polling and Error Retry Rate, Section 18.2.3
        - Change Request Priority, Section 18.2.4
        - Suspend a Request, Section 18.2.5
        - Resume Processing on a Suspended Request, Section 18.2.6
        - Cancel a Request, Section 18.2.7
        - Media Selection, Section 18.3
        - Product Shipment, Section 18.4

## 2.3 E-EGS09-4 Scenario 4 -- E-LC-2, User Registration and E-LC-3, ASTER L1a/1b Data Query, Browse and Order

This scenario exercises: 1) the use of ECS Client to register new users; 2) the use of the ECS Client to test privileges established for the new users; and 3) WEB base user login and authorization. This scenario exercises: 1) using ECS Client from the Image Assessment System (IAS) console generate a hit list from a query; 2) browse L0R data/images/metadata; and 3) select items from the hit list to order.

### 2.3.1 Requirements To Be Verified Either in full or portions:

- ASTER-0760, ASTER-0770, ASTER-0820, ASTER-0825, ASTER-0830, ASTER-0865, ASTER-O870, ASTER-0875, ASTER-0880, ASTER-0885, ASTER-0895, ASTER-0905ASTER-0910, ASTER-0915, ASTER-0930, EOSD5060#B, SMC-5320#B

### 2.3.2 Test Objectives:

- TBD

### 2.3.3 Expected Test Results:

- TBD

### 2.3.4 Methods for Results Analysis:

- TBD

### 2.3.5 General Test Flow Sequence:

**User Services**

- 611-CD-004-002 reference. The following procedures describe the operations for running the various steps necessary during operations.
    - Retrieve User Account/validate User, Section 19.1.1
    - Create a User Account, Section 19.1.2
    - Account Creation from URN, Section 19.1.3
    - Edit/Modify an Existing Account, Section 19.1.4
    - Delete an ECS account, Section 19.1.5
    - Cancel/Suspend an ECS Account, Section 19.1.6
    - Change an ECS User Password, Section 19.1.7
    - Create User Contact Log, Section 19.2.1
    - Retrieve User Information, Section 19.2.2
    - Locate Data via Search & Order tool, Section 19.2.3
    - Request Price Estimate/Confirm Order, Section 19.2.4
    - Order Data, Section 19.2.5
    - Update User Contact Log, Section 19.2.6
- Locate Data Via Search & Order Tool
    - Obtain a Spatial Summary, Section 19.2.3.1

        - Obtain a Temporal Summary, Section 19.2.3.2
        - Obtain a Discrete Attribute Summary, Section 19.2.3.3
        - Browse the Search Results, Section 19.2.3.4
        - Select Granules to Order, Section 19.2.3.5
        - Request Price Estimate, Section 19.2.4
        - Specify Order Details, Section 19.2.5
- Processing an Order
    - Create User Contact Log, Section 19.2.1
    - Retrieve User Information, Section 19.2.2
    - Locate Data via Search & Order tool, Section 19.2.3
    - Request Price Estimate/Confirm Order, Section 19.2.4
    - Order Data, Section 19.2.5
    - Update User Contact Log, Section 19.2.6

## 2.4 E-EGS09-5 Scenario 5 – E-LE-6, ASTER DAR, Generation, Submit and Responses for a DAR

This scenario exercises the EDAAC ECS ability to generate and submit a DAR request to ASTER GDS.

### 2.4.1 Requirements To Be Verified Either in full or portions:

- ASTER -0100, ASTER-0110, ASTER-0120, ASTER-0130, ASTER-0140, IMS-0280#B, IMS-0900#B, IMS-1070#B, IMS-1130#B, IMS-1260#B, IMS-1261#B, IMS-1262#B,

### 2.4.2 Test Objectives:

- TBD

### 2.4.3 Expected Test Results:

- TBD

### 2.4.4 Methods for Results Analysis:

- TBD

### 2.4.5 General Test Flow Sequence:

**ASTER DAR Submit:**

- 611-CD-004-002 reference. The following procedures describe the operations for running the various steps necessary during operations.
    - Create a User Account, Section 19.1.2
        - Personal Information Folder, Section 19.1.2.1
        - Mailing Address Folder, Section 19.1.2.2
        - Shipping Address Folder, Section 19.1.2.3
        - Billing Address Folder, Section 19.1.2.4
        - Account Information Folder, 19.1.2.5
        - DAR Information, 19.1.2.6
    - Create a User Account, Quick Steps, Section 19.1.2.7
    - Account Creation from URL Registration, Section 19.1.3
    - Edit/Modify an Existing Account, Section 19.1.4
        - Edit/Modify Personal Information, Section 19.1.4.1
        - Edit/Modify Mailing Address, Section 19.1.4.2
        - Edit/Modify Shipping Address, Section 19.1.3
        - Edit/Modify Billing Address, Section 19.1.4
        - Edit/Modify Account Information, Section 19.1.5
        - Edit/Modify DAR Information, Section 19.1.4.6
    - Edit/Modify an Existing Account Quick Steps, Section 19.1.4.7
    - Deleting an ECS Account, Section 19.1.5

    - Canceling an ECS Account, Section 19.1.6
    - Changing an ECS User's Password, Section 19.1.7
- **Using the DAR Tool**
    - **TBD**


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## 2.5 E-EGS09-6 Scenario 6 - E-LE-9, ASTER Routine Processing and Archive and E-LE-12, Manual ASTER Ad Hoc Processing and Archive

This scenario exercises: 1) planning and processing of the ASTER L1a/1b data, including the retrieval and staging of ancillary data from the Data Server; 2) receipt of user services for a request of higher level ASTER products, 3) production scheduling, 4) request processing, 5) archiving the results, 6)distribution of the data, and 7) order tracking capability.

### 2.5.1 Requirements To Be Verified Either in full or portions:

### 2.5.2 Test Objectives:

- TBD

### 2.5.3 Expected Test Results:

- TBD

### 2.5.4 Methods for Results Analysis:

- TBD

### 2.5.5 General Test Flow Sequence:

**ASTER On Demand Higher Level Processing**

- Production Request, Section 13.1
  - Launching the Production Request Editor, Section 13.1.1
  - Create a New Production Request, Section 13.1.2
  - Edit/Update a New Production Request, Section 13.1.3
  - Review Data Production Request, Section 13.1.4
  - Generate Reports, TBD
- Production Planning, Section 13.2
  - Launching the Planning Workbench, Section 13.2.1
  - Generate/Baseline/Activate a Production Plan, Section 13.2.2
  - Review Plan Timeline, Section 13.2.3
- Production Processing, Section 14
  - Configure Autosys, Section 14.1
  - Review Hardware Status, Section 14.2
  - Review DPR Dependencies, Section 14.3
  - Review DRR Production Timeline, Section 14.4
  - Modify Job Priority, Section 14.5
  - Review Alarms, Section 14.6
  - Review Job Activities, Section 14.7
  - Modify Job Status, Section 14.8

- Display Activity Log, Section 14.9
- Display and Print Job Dependency Log, Section 14.10
- Define Monitors/Browsers, Section 14.11
- Modify Database Maintenance Time Change, Section 14.12 (Once a day activity)
- Generate Production Reports, Section 14.13 (Not available until Drop 5)
- Time Synchronization, TBD

## OPS Rehearsal Scenarios and/or Activities at EDC DAAC Including ASTER

| # | Task/Activity/Operation | Scenario and Number of operations/day[1] | 24 Hour Operations Period | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 1 | System start-up or re-start **E-EGS10.1** | Once or as needed **E-LC-11** | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | System Shutdown **E-EGS10.1** | Once or as required **E-LC-11** | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | DCE Cell Management **E-EGS10.1** | On Start up verify DCE operation **E-LC-11** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Ingest of Data **E-EGS10.2** | Daily operation **E-LC-4, 6, 13** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4a | ASTER Ingest **E-EGS09** | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4b | ASTER GDS sends DSN **E-EGS09.1** | N/A **E-LC-8** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4c | ASTER GDS ships D3 tapes **E-EGS09.1** | 24 hours of data **E-LC-8** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4d | Level 1 tapes received **E-EGS09.1** | N/A **E-LC-8** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4e | DSN checked against tapes **E-EGS09.1** | **E-LC-8** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4f | ASTER L1a/L1b Ingest **E-EGS09.1** | Once/day **E-LC-8** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4g | ASTER L1a/L1b Archive **E-EGS09.1** | Once/Day **E-LC-8** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4h | ASTER SSI&T **E-EGS09.2** | As New or updated PGEs received **E-LC-9, 12** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4i | Mode Management **E-EGS10.3** | Checked while running SSI&T and operations **E-LC-12, 13** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4j | ESDT Addition and Distribution **E-EGS10.3** | Distributed after SSI&T **E-LC-12, 13** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4k | Distribution of ASTER L1a/1b | As Required | | | | | | | | | | | | | | | | | | | | | | | | |


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| # | Task/Activity/Operation | Scenario and Number of operations/day[1] | 24 Hour Operations Period | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| | to ITs **E-EGS09.3** | **E-LC-14** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4l | *ASTER L2/L3 Processing* ***E-EGS09.7*** | *On Demand* ***E-LE-9, 12*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4m | *ASTER L2/L3 Archive* ***E-EGS09.7*** | *On Demand* ***E-LC-9, 12*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4aa | Landsat 7 Ingest **E-EGS5** | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4bb | LPS to EDAAC Ingest & Archive **E-EGS5.02** | Every 2 hours LOR data **E-LC-1** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4cc | IGS to EDAAC **E-EGS5.03** | Metadata updates **E-LC-5** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4dd | IAS to EDAAC to IAS E-EGS5.04 | Calibration parameter file transfer. **E-LC-7** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4ee | MMO and EDAAC transfers **E-EGS5.05** | MMO reports and product price information **E-LE-13** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4ff | Landsat 7 and ECS Advertising Service **E-EGS5.06** | Inventory metadata made available to users **E-LC3, 4** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4gg | MOC to EDAAC **E-EGS5.07** | Engineering data exchange. **E-LE-4** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4aa' | *MODIS 2G Ingest* ***E-EGS10.2*** | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4bb' | *MODIS 2G Ingest* ***E-EGS10.2*** | *Ingest MODIS 2G data from GDAAC* ***E-LC-4, 6, 13*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4cc' | *Archive MODIS 2G* ***Data E****-EGS10.2* | *Archiving of 2G products* ***E-LC-4, 6, 13*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4dd' | MODIS SSI&T **E-EGS10.3** | As new or updated PGEs are received **E-LC-12, 13** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4ee' | Mode Management **E-EGS10.3** | Checked while running SSI&T and operations **E-LC-12, 13** | | | | | | | | | | | | | | | | | | | | | | | | |
| 4ff' | ESDT Addition and | Distributed after SSI&T | | | | | | | | | | | | | | | | | | | | | | | | |

| # | Task/Activity/Operation | Scenario and Number of operations/day[1] | 24 Hour Operations Period | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| | Distribution **E-EGS10.3** | **E-LC-12, 13** | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | TCP/IP **E-EGS10.4** | e-mails and distribution of data **E-LC-11, 16** | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Resource Planning E-EGS10.4 | Production Planning **E-LC-11, 16** | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | System Backup and Restore **E-EGS10.4** | As Required **E-LC-11,16** | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Management of UNIX Users Accounts **E-EGS10.4** | As Required **E-LC-11,16** | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Error Logs **E-EGS10.4** | As Required **E-LC-11,16** | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Network operations **E-EGS10.4** | As Required **E-LC-11,16** | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | COTS Management **E-EGS10.4** | As Required **E-LC-11,16** | | | | | | | | | | | | | | | | | | | | | | | | |
| 11a | HP Open View **E-EGS10.4** | Once per test **E-LC-11,16** | | | | | | | | | | | | | | | | | | | | | | | | |
| 11b | Tivoli **E-EGS10.4** | Once per test **E-LC-11,16** | | | | | | | | | | | | | | | | | | | | | | | | |
| 11c | Remedy **E-EGS10.4** | Once per test **E-LC-11,16** | | | | | | | | | | | | | | | | | | | | | | | | |
| 11d | Clear Case **E-EGS10.4** | Once per test **E-LC-11,16** | | | | | | | | | | | | | | | | | | | | | | | | |
| 11e | DDTS **E-EGS10.4** | Once per test **E-LC-11,16** | | | | | | | | | | | | | | | | | | | | | | | | |
| 11f | XRP-II **E-EGS10.4** | Once per test **E-LC-11,16** | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | ASTER Catalog Interoperability **E-EGS09.4** | As Many as 20 or more per hour **E-LC-2, 3** | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | Ingest ASTER GDS valids **E-EGS09.4** | As Many as 20 or more per hour **E-LC-2, 3** | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | *Submit a Inventory Search **E-EGS09.4*** | *As Many as 20 or more per hour **E-LC-2, 3*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | *Receive Inventory Search* | *As Many as 20 or* | | | | | | | | | | | | | | | | | | | | | | | | |

| # | Task/Activity/Operation | Scenario and Number of operations/day[1] | 24 Hour Operations Period | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| | *Results **E-EGS09.4*** | *more per hour **E-LC-2, 3*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | *Submit Integrated Browse Request **E-EGS09.4*** | *As Many as 20 or more per hour **E-LC-2, 3*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | *Receive Integrated Browse Request Results **E-EGS09.4*** | *As Many as 20 or more per hour **E-LC-2, 3*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | *Receive Browse Image for each product **E-EGS09.4*** | *As Many as 20 or more per hour **E-LC-2, 3*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | *Submit a Product Order Request **E-EGS09.4*** | *As Many as 20 or more per hour **E-LC-2, 3*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | *Submit a query on Product Status **E-EGS09.4*** | *As Many as 20 or more per hour **E-LC-2, 3*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | *Submit a single granule Browse Request **E-EGS09.4*** | *As Many as 20 or more per hour **E-LC-2, 3*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | *Receive a single granule Browse results message **E-EGS09.4*** | *As Many as 20 or more per hour **E-LC-2, 3*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | *Receive the single granule image **E-EGS09.4*** | *As Many as 20 or more per hour **E-LC-2, 3*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | *Submit a cancel product request **E-EGS09.4*** | *As Many as 20 or more per hour **E-LC-2, 3*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | *Receive Product Cancel result **E-EGS09.4*** | *As Many as 20 or more per hour **E-LC-2, 3*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | *Submit a request for product price estimate information **E-EGS09.4*** | *As Many as 20 or more per hour **E-LC-2, 3*** | | | | | | | | | | | | | | | | | | | | | | | | |

| # | Task/Activity/Operation | Scenario and Number of operations/day[1] | 24 Hour Operations Period | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 27 | *Receive Price estimate results* ***E-EGS09.4*** | *As Many as 20 or more per hour* ***E-LC-2, 3*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | *Request an update to a product request.* ***E-EGS09.4*** | *As Many as 20 or more per hour* ***E-LC-2, 3*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | *Receive the Product Update Results* ***E-EGS09.4*** | *As Many as 20 or more per hour* ***E-LC-2, 3*** | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | Order a Product **E-EGS09.4** | As Many as 20 or more per hour **E-LC-2, 3** | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | Receive Product Result message **E-EGS09.4** | As Many as 20 or more per hour **E-LC-2, 3** | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | Receive Product tape **E-EGS09.4** | As Many as 20 or more per hour **E-LC-2, 3** | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | Submit a DAR Acquisition Request **E-EGS09.5** | Possible one or two requests per day **E-LC-6** | | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | Receive confirmation and XAR ID from ASTER GDS **E-EGS09.5** | Possible one or two requests per day **E-LC-6** | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | Submit a XAR Modify Request **E-EGS09.5** | Possible one or two requests per day **E-LC-6** | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | Receive the revised status request from ASTER GDS **E-EGS09.5** | Possible one or two requests per day **E-LC-6** | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | Submit a XAR Status Search **E-EGS09.5** | Possible one or two requests per day **E-LC-6** | | | | | | | | | | | | | | | | | | | | | | | | |
| 38 | Receive XAR Status Results **E-EGS09.5** | Possible one or two requests per day **E-LC-6** | | | | | | | | | | | | | | | | | | | | | | | | |

| # | Task/Activity/Operation | Scenario and Number of operations/day[1] | 24 Hour Operations Period | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 39 | Submit XAR Contents E-Request **E-EGS09.5** | Possible one or two requests per day **E-LC-6** | | | | | | | | | | | | | | | | | | | | | | | | |
| 49 | Receive XAR Contents retrieval results **E-EGS09.5** | Possible one or two requests per day **E-LC-6** | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | Submit Sub-XAR status search request **E-EGS09.5** | Possible one or two requests per day **E-LC-6** | | | | | | | | | | | | | | | | | | | | | | | | |
| 42 | Receive Sub-XAR status search Results **E-EGS09.5** | Possible one or two requests per day **E-LC-6** | | | | | | | | | | | | | | | | | | | | | | | | |

**Appendix: Test Package Requirements Summary**

| Requirement | Description | Test Case(s) |
|---|---|---|
| ASTER-0020 | ASTER GDS shall have the capability to send and ECS (EDC DAAC) shall have the capability to receive all algorithms, source code, and documentation used by the ASTER GDS to process ASTER Level 0 data to Level 1 and higher level standard products. | E-EGS09-2 |
| ASTER-0100 | ASTER GDS shall have the capability to send and ECS shall have the capability to receive information on ASTER instrument operations and constraints that may be applicable to DAR specification. The ASTER instrument constraint information shall include (at a minimum):<br>a. descriptive information for the ASTER instrument<br>b. default settings for instrument configurable parameters<br>c. range of values for instrument configurable parameters<br>d. instrument constraint information | E-EGS09-5 |
| ASTER-0110 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive DARs for the ASTER instrument. DARs shall contain the following information, at a minimum:<br>a. Observation number<br>b. Experimenter identification<br>c. Experimenter address<br>d. Investigation identification<br>e. Scientific discipline<br>f. Observation repetition period<br>g. Tolerance in observation time<br>h. User priority<br>i. Scheduling priority and target of opportunity flag<br>j. Descriptive text<br>k. Location data expressed in terms of longitude and latitude as earliest start coordinates and latest stop coordinates<br>l. Earliest start time<br>m. Latest stop time<br>n. Minimum coverage required<br>o. Maximum coverage desired<br>p. Deleted<br>q. Deleted<br>r. Associated product generation request and product distribution request<br>s. Pointing angle<br>t. Calibration requirements<br>u. Coordination requirements<br>v. Data transmission requirements<br>w. Illumination requirements (day/night)<br>x. Specific time of observation<br>y. Sun angle<br>z. Direct downlink option | E-EGS09-1<br>E-EGS09-5 |
| ASTER-0120 | ASTER GDS shall have the capability to send and ECS shall have the | |

| Requirement | Description | Test Case(s) |
|---|---|---|
| | capability to receive DAR status, when requested by ECS. DAR status shall include such information as confirmation or rejection of the DAR, and notification of DAR scheduling and completion, to include at a minimum:<br>a. Date and time<br>b. Instrument ID<br>c. DAR ID<br>d. Request status<br>e. Implementation schedule<br>f. If rejection, then the reason for the rejection. | E-EGS09-5 |
| ASTER-0130 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive queries for the current status of ASTER DARs which were previously submitted to the ASTER GDS by ECS. | E-EGS09-5 |
| ASTER-0140 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive changes to DARs for the ASTER instrument. | E-EGS09-5 |
| ASTER-0700 | ASTER GDS shall have the capability to send and ECS (EDC DAAC) shall have the capability to receive Level 1 data, ancillary data, metadata, and browse. | E-EGS09-1 |
| ASTER-0730 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive orbit data anomaly notifications. | E-EGS09-1 |
| ASTER-0760 | ASTER GDS shall have the capability to send and ECS shall have the capability to receive data availability schedules for ASTER GDS data products which were requested by ECS. | E-EGS09-4 |
| ASTER-0770 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive data availability schedules for ECS data products which were requested by ASTER GDS. | E-EGS09-4 |
| ASTER-0820 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive inventory search requests. | E-EGS09-4 |
| ASTER-0825 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive guide search requests. | E-EGS09-4 |
| ASTER-0830 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive browse requests. | E-EGS09-4 |
| ASTER-0865 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive inventory search results. | E-EGS09-4 |
| ASTER-0870 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive guide search results. | E-EGS09-4 |
| ASTER-0875 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive browse results. | E-EGS09-4 |
| ASTER-0880 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive user authentication requests for ASTER GDS privileges of EOSDIS users. | E-EGS09-4 |
| ASTER-0885 | ASTER GDS shall have the capability to send and ECS shall have the capability to receive user authentication information specifying ASTER | E-EGS09-4 |

| Requirement | Description | Test Case(s) |
|---|---|---|
| | GDS privileges for EOSDIS users. | |
| ASTER-0895 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive user authentication information specifying ECS privileges for ASTER GDS users. | E-EGS09-4 |
| ASTER-0905 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive product generation requests for ASTER GDS data products. Product generation requests will include an associated product distribution request. | E-EGS09-4 |
| ASTER-0910 | ASTER GDS shall have the capability to send and ECS shall have the capability to receive product delivery status information. Product delivery status information contains the following information, at a minimum:<br>a. Requester identification<br>b. Request identification<br>c. Request status<br>d. If rejection, then the reason for the rejection<br>e. If delayed longer than the latest completion time specified by the user, adjusted start and stop times. | E-EGS09-4 |
| ASTER-0915 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive requests for product delivery status. | E-EGS09-4 |
| ASTER-0930 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive product delivery status information. Product delivery status information contains the following information, at a minimum:<br>a. Requester identification<br>b. Request identification<br>c. Request status<br>d. If rejection, then the reason for the rejection<br>e. If delayed longer than the latest completion time specified by the user, adjusted start and stop times. | E-EGS09-4 |
| ASTER-1000 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive ECS system and network management information | E-EGS09- |
| ASTER-1005 | ECS shall have the capability to send and ASTER GDS shall have the capability to receive requests for ASTER GDS network management information. | E-EGS09- |
| ASTER-1010 | ASTER GDS shall have the capability to send and ECS shall have the capability to receive ASTER GDS system and network management information. | E-EGS09- |
| ASTER-1015 | ASTER GDS shall have the capability to send and ECS shall have the capability to receive requests for ECS system management information. | E-EGS09- |
| DADS0200#B | Each DADS shall receive from the IPs at a minimum, the following:<br>a. L0-L4 data products<br>b. Orbit/attitude data<br>c. Metadata associated with data sets<br>d. Ancillary data | E-EGS09-1<br>E-EGS09-2 |

| Requirement | Description | Test Case(s) |
|---|---|---|
| | e. Calibration data<br>f. Correlative data<br>g. Documents<br>h. Algorithms | |
| DADS2020#B | Each DADS shall have the capability to receive data availability schedules at a minimum, from:<br>a. (DELETED)<br>b. IPs<br>c. ADCs<br>d. ODCs<br>e. Other DADS<br>f. TRMM (SDPF) | E-EGS09- |
| EOSD1770#B | ECS elements shall exchange the following types of data at a minimum with the IPs:<br>a. Instrument command loads<br>b. Science data<br>c. Planning and scheduling data<br>d. Directories<br>e. Product Orders<br>f. Status data | E-EGS09-2<br>E-EGS09-3<br>E-EGS09-4 |
| EOSD5060#B | ECS shall enable interoperability with equivalent International systems, e.g. European and Japanese systems, to support the following:<br>a). Browse services<br>b). Data retrieval services. | E-EGS09- |
| IMS-0280#B | The IMS shall maintain DAR generation information, for example, instrument information received from the ICC and spacecraft information received from the EOC, in a data base which will be accessible during the DAR planning and submittal process. | E-EGS09-5 |
| IMS-0900#B | The IMS shall provide an interface to the IPs for ordering data to be delivered directly to the user or to a DADS. | E-EGS09- |
| IMS-1070#B | The IMS shall provide the capability for users to construct DARS for collection of ASTER instrument data which shall contain information as listed in the ASTER IRD. | E-EGS09-5 |
| IMS-1130#B | The IMS shall provide descriptive information on instruments and parameters available in Standard Products to help with the creation of data acquisition requests for the ASTER | E-EGS09-5 |
| IMS-1260#B | The IMS shall be expandable to provide the capability to receive, from the IP Information Management System or an equivalent IP facility, data acquisition request status in accordance with applicable MOUs and provide the status to the data acquisition requester. | E-EGS09-5 |
| IMS-1261#B | The IMS shall provide the capability to forward data acquisition requests to the ASTER GDS, in accordance with applicable IRDs and ICDs. | E-EGS09-5 |
| IMS-1262#B | The IMS shall provide the capability to request and receive the ASTER GDS data acquisition request status in accordance with applicable IRDs | E-EGS09-5 |

| Requirement | Description | Test Case(s) |
|---|---|---|
| | and ICDs and provide the status to the data acquisition requester. | |
| PGS-0150#B | The PGS shall receive from the collocated DADS data availability schedules for remote DADS, SDPF, the IPs, the ADCs and ODCs. | E-EGS09- |
| SDPS0025#B | The SDPS shall accept scientific and non-scientific investigator supplied dataset specific data transformations. | E-EGS09-1 |
| SDPS0110#B | The SDPS shall be responsible for coordination of the transfer of production and expedited science and engineering data from the IPs. | E-EGS09-6 |
| SMC-1500#B | The SMC shall perform schedule conflict analysis and resolution services in response to a schedule conflict involving sites, ECS elements, or external elements, agencies, or organizations, except for conflicts associated with flight operations | E-EGS09- |
| SMC-5320#B | The SMC shall establish, maintain, and authenticate access privileges for ECS scientific users. | E-EGS09-4 |